PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 93131-6	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/CA2004/002012	International filing date *(day/month/year)* 23 November 2004 (23-11-2004)	Priority date *(day/month/year)* 24 November 2003 (24-11-2003)

International Patent Classification (IPC) or national classification and IPC
IPC: *H04L 12/56* (2006.01) , *H04L 12/24* (2006.01) , *H04L 12/26* (2006.01)

Applicant
REINER, RICHARD

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of   4   sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

   a. [X] *(sent to the applicant and to the International Bureau)* a total of   2   sheets, as follows:

       [X] sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

       [ ] sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. 1 and the Supplemental Box.

   b. [ ] *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s))
               , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

   [X] Box No. I   Basis of the report

   [ ] Box No. II   Priority

   [ ] Box No. III   Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

   [ ] Box No. IV   Lack of unity of invention

   [X] Box No. V   Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   [ ] Box No. VI   Certain documents cited

   [ ] Box No. VII   Certain defects in the international application

   [X] Box No. VIII   Certain observations on the international application

Date of submission of the demand 22 September 2005 (22-09-2005)	Date of completion of this report 17 March 2006 (17-03-2006)
Name and mailing address of the IPEA/CA Canadian Intellectual Property Office Place du Portage I, C114 - 1st Floor, Box PCT 50 Victoria Street Gatineau, Quebec K1A 0C9 Facsimile No.: 001(819)953-2476	Authorized officer Arthur Smith (819) 953-1360

Form PCT/IPEA/409 (cover sheet) (April 2005)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/CA2004/002012

Box No. I	Basis of the report

1. With regard to the language, this report is based on:

   [X] the international application in the language in which it was filed

   [ ] a translation of the international application into _____ , which is the language of a
   translation furnished for the purposes of:

       [ ] international search (Rules 12.3(a) and 23.1(b))

       [ ] publication of the international application (Rule 12.4(a))

       [ ] international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

   [ ] the international application as originally filed/furnished

   [X] the description:

       [X] pages   1-10   as originally filed/furnished

       [ ] pages*   received by this Authority on

       [ ] pages*   received by this Authority on

   [X] the claims:

       [X] pages   <u>11</u>   as originally filed/furnished

       [ ] pages*   as amended (together with any statement) under Article 19

       [X] pages*   <u>12-13</u>   received by this Authority on   <u>22 September 2005 (22-09-2005)</u>

       [ ] pages*   received by this Authority on

   [X] the drawings:

       [X] pages   1-3   as originally filed/furnished

       [ ] pages*   received by this Authority on

       [ ] pages*   received by this Authority on

   [ ] a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. [ ] The amendments have resulted in the cancellation of:

       [ ] the description, pages

       [ ] the claims, Nos.

       [ ] the drawings, sheets/figs

       [ ] the sequence listing *(specify):*

       [ ] any table(s) related to sequence listing *(specify):*

4. [ ] This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

       [ ] the description, pages

       [ ] the claims, Nos.

       [ ] the drawings, sheets/figs

       [ ] the sequence listing *(specify):*

       [ ] any table(s) related to sequence listing *(specify):*

*   *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-19</u>		YES
	Claims	<u>None</u>		NO
Inventive step (IS)	Claims	<u>1-19</u>		YES
	Claims	<u>None</u>		NO
Industrial applicability (IA)	Claims	<u>1-19</u>		YES
	Claims	<u>None</u>		NO

2. Citations and explanations (Rule 70.7)

1.0 Reference is made to the following documents:

    D1   US5,796,942
    D2   A. Meehan et al., "Packet Sniffing for Automated Chat Room Monitoring and Evidence Preservation" <u>Proceedings of the 2001 IEEE Workshop on Information Assurance and Security</u>, United States Military Academy, West Point, NY, 5-6 June 2001, pages 285-288.

1.1 D1 and D2 are considered to form the closest prior art.

1.2 D1 discloses a network surveillance system including means for capturing network packets, filtering invalid packets, storing the received packets in a memory according to session identification, reconstructing sessions, and scanning each session for contravention of certain rules. If a session is found to have met a rule indicating a security incident, a variety of appropriate actions may be taken including notifying a network security officer, or recording or terminating a network session. The surveillance system operates in parallel with, and completely independent of, any other network traffic and the network server and therefore has no impact on network performance.

1.3 D2 discloses packet sniffing of a client-server network model. D2 describes how packet sniffing is the act of intercepting and interpreting network traffic transmitted across a computer network. The network interface card (NIC) in a networked computer must be configured to operate in "promiscuous" mode such that it processes all network traffic including packets not addressed to that computer. Interceptions of packets occurs in a parallel fashion by using a "tap".

Novelty
2.0 Although D1 teaches reconstructing sessions from stored packets in memory, such reconstructed packets are identical to their original packets, respectively, whereas in claims 1, 17, and 19 a re-constructor builds parallel packets in which data and other information is copied from original packets, but initial sequence numbers and acknowledgement numbers for the latter reconstructed parallel packets are new. Thus, any pre-existing standard service provider may be used with the session re-constructor whereas, in D1, a special device must be built to handle the reconstructed (duplicate) packets.

2.1 D2 teaches interception of network packets transmitted across a network, but fails to disclose the creation of a parallel session.

2.1 Thus, D1 or D2 fail to disclose all the elements of each of claims 1, 17, and 19, and their dependent claims 2-16 and 18, respectively. Claims 1-19 are therefore **considered to be novel** in accordance with Article 33(2) PCT.

Inventive Step
3.0 D1 alone, or in combination with D2, fails to teach reconstruction of parallel packets including new initial sequence numbers and acknowledgement numbers. Thus, independent claims 1, 17, and 19, and their dependent claims 2-16 and 18, respectively, are **considered to have inventive step** in accordance with Article 33(3) PCT.

Industrial Applicability
4.0 The claimed subject matter of claims 1-18 is considered to be **industrially applicable**, thus fulfilling the requirements of Article 33(4) PCT.

Form PCT/IPEA/409 (Box No. V) (April 2005)

Box No. VIII	Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The present set of claims does not meet the requirements of Article 6 PCT since it is not clear and concise in the following respects:

Claim 1 is directed towards desired results because claim 1 claims a method but fails to specify more than one method step. A method must have at least two steps.

In claim 5, the expression "follows internet protocol" is ambiguous.

In claim 6, the expression "follows transport control protocol" is ambiguous.

In claim 17, the term "interface" (line 3) lacks a clear and unambiguous antecedent because the term is already declared on line 2.

The use of the term "sequence number" on lines 3 and 4 of claim 18 is ambiguous. A "sequence number" normally refers to identification of a session packet and cannot be applied to a network endpoint.

In claim 18, the term "point" (line 4) appears to be in error. Applicant may have intended "endpoint" instead.

The following comments are noted regarding the description:

The description does not comply with PCT Article 5. A statement in an application, such as found on page 8, lines 16-17 and 19, which incorporates by reference any other document, does not fully describe the invention. The description shall be complete in and on itself. A person skilled in the art should be able to understand the patent specification without reference to any other document.